Robert Miller
REM Industries
902 Nelson Parkway
Walkarusa, IN 46573

Re: Registered Construction and Operation Status,
039-12568-00544

Dear Mr. Miller:

The application from REM Industries received on August 2, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following wood finishing operation, to be located at 902 Nelson Parkway, Walkarusa, Indiana, is classified as registered:

(a) Two (2) natural gas furnaces, with a heat input rate of 0.075 million Btu/hr each, exhausting to atmosphere;

(b) One (1) wood finishing spray line (staining, sealant), with a maximum throughput of 540 lbs of furniture/hr; controlled by dry filters exhausting to atmosphere.

The following conditions shall be applicable:

(a) This facility has the potential to emit more than 10 tons of VOC/yr for Elkhart county. Pursuant to 326 IAC 2-6 (Emission Reporting), the owner/operator of this source must annually submit an emission statement of the source to the commissioner. The annual statement must be received by April 15 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4. The submittal should cover the twelve (12) month consecutive period starting December 1 and ending November 30 as specified in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

(b) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minute (sixty (60)) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

(c) Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the owner/operator of this source shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) or more of the following application systems: airless spray application system, air-assisted airless spray application system, electrostatic spray application system, electrostatic bell

or disc application system, heated airless spray application system, roller coat, brush or wipe application system or dip-and-drain application system.

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application of Air Assisted Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

(d) An authorized individual shall provide an annual notice to the Office of Air Management that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

ERG/RB

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance - Paul Karkiewicz - Northern Regional Office
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3).

Company Name:	**REM Industries**
Address:	**902 Nelson Parkway**
City:	**Walkarusa, Indiana**
Authorized individual:	**Robert Miller**
Phone #:	**(219) 862-2127**
Registration #:	**039-12568-00544**

I hereby certify that REM Industries is still in operation and is in compliance with the requirements of Registration 039-12568-00544.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management (IDEM)
Office of Air Management

Technical Support Document (TSD) for
New Construction and Registered Emission Unit

Source Background and Description

Source Name:	**REM Industries**
Source Location:	**902 Nelson Parkway, Walkarusa, Indiana 46573**
County:	**Elkhart**
Construction Permit No.:	**039-12568-00544**
SIC Code:	**2511**
Permit Reviewer:	**ERG/RB**

The Office of Air Management (OAM) has reviewed an application from REM Industries relating to the construction and operation of a wood finishing process, **Permitted Emission Units and Pollution Control Equipment** (this source consists of the following equipment):

(a) Two (2) natural gas furnaces, with a heat input rate of 0.075 million Btu/hr each, exhausting to atmosphere;

(b) One (1) wood finishing spray line (staining, sealer), with a maximum throughput of 54 lbs of furniture/hr; controlled by dry filters exhausting to atmosphere.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on August 2, 2000.

Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (4 pages).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of

material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Emissions (ton/yr)
PM	6.18
SO_2	0.00
VOC	22.83
CO	0.06
NOx	0.07
Single HAP	3.55
Combination of HAPs	5.11

(a) Allowable emissions (as defined in the 326 IAC 1-2-2) of PM and VOC are less than 25 tons per year, but greater than 5 and 10 tons per year, respectively. Therefore, pursuant to 326 IAC 2-1, a registration is required.

(b) Allowable emissions (as defined in the 326 IAC 1-2-2) of a single hazardous air pollutant (HAP) are less than 10 tons per year and/or the allowable emissions of any combination of the HAPs are less than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, a construction permit is not required.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Maintenance
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Elkhart County has been classified as attainment for all other criteria. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.31
PM10	0.31
SO_2	0.00
VOC	22.83
CO	0.06
NO_x	0.07
Single HAP	3.55
Combination HAPs	5.11

(a) This new source is not a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)
This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,

(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and

(c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 60 applicable to this facility.

(b) There are no NESHAP 40 CFR Part 63 applicable to this facility.

40 CFR Part 63, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations

This woodworking operation is not covered by 40 CFR Part 63, Subpart JJ (national Emission Standards for Wood Furniture Manufacturing Operations), because this source is not a major source as defined in 40 CFR Part 63.2

State Rule Applicability - Entire Source

(a) (326 IAC 2-6 (Emission Reporting)
This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source has the potential to emit more than 10 tons/yr for Elkhart county. Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by April 15 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

(b) 326 IAC 5-1-2 (Opacity Limitations)
Pursuant to IAC 5-1-2, except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minute (sixty (60)) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

State Rule Applicability - Individual Facilities

(a) 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)
The owner/operator of this source shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) or more of the following application systems: airless spray application system, air-assisted airless spray application system, electrostatic spray application system, electrostatic bell or disc application system, heated airless spray application system, roller coat, brush or wipe application system or dip-and-drain application system.

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application of Air Assisted Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

Conclusion

The construction and operation of this wood finishing operation will be subject to the conditions of the attached proposed Registration No. CP-039-12568-00544.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
Natural Gas Furnaces (2)

Company Name: **REM Industries**
Address City IN Zip: **900 Nelson Parkway, Walkarusa, Indiana**
Reg: **039-12568**
Plt ID: **00543**
Reviewer: **ERG/RB**
Date: **08/25/2000**

Heat Input Capacity (per furnace) MMBtu/hr	Potential Throughput (per furnace) MMCF/yr
0.08	0.7

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr (per furnace)	0.0025	0.0025	0.0002	0.0329	0.0018	0.0276
Potential Emission in tons/yr (total)	0.0050	0.0050	0.0004	0.0657	0.0036	0.0552

*PM and PM10 emission factors are combined fitlerable and condensable PM and PM10, respectively.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
Natural Gas Furnaces (2)
HAPs Emissions

Company Name: **REM Industries**
Address City IN Zip: **900 Nelson Parkway, Walkarusa, Indiana**
CP: **039-12568**
Plt ID: **00543**
Reviewer: **ERG/RB**
Date: **08/25/2000**

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr (per furnace)	0.00	0.00	0.00	0.00	0.00
Potential Emission in tons/yr (total)	0.00	0.00	0.00	0.00	0.00

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr (per furnace)	0.00	0.00	0.00	0.00	0.00
Potential Emission in tons/yr (total)	0.00	0.00	0.00	0.00	0.00

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: **REM Industries**
Address City IN Zip: **900 Nelson Parkway, Walkarusa, Indiana**
Reg: **039-12568**
Plt ID: **00543**
Reviewer: **ERG/RB**
Date: **08/25/2000**

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
WW Self Seal (014-7095-60)	7.58	74.85%	0.0%	74.85%	0.0%	16.70%	2.00E-02	45.000	5.67	5.67	5.11	122.55	22.37	5.64	33.97	25%
Stain (L-5152)	7.29	79.44%	0.0%	79.44%	0.0%	9.29%	2.00E-02	45.000	5.79	5.79	5.21	125.09	22.83	4.43	62.37	25%
Stain (L-515)	7.65	72.66%	0.0%	72.66%	0.0%	12.82%	2.00E-02	45.000	5.56	5.56	5.00	120.06	21.91	6.18	43.37	25%
State Potential Emissions			**Add worst case coating to all solvents**								**5.21**	**125.09**	**22.83**	**6.18**		

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emission Calculations
HAP Emission Calculations
Surface Coating
Company Name: REM Industries
Address City IN Zip: 900 Nelson Parkway, Walkarusa, Indiana
Reg: 039-12568
Plt ID: 00543
Reviewer: ERG/RB
Date: 08/25/2000

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Manganese	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Benzene	Weight % Hexane	Weight % Glycol Ethers	Weight % Methanol	Manganese Emissions (ton/yr)	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Benzene Emissions (ton/yr)	Hexane Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Methanol Emissions (ton/yr)
WW Self Seal (014-7095-60)	7.58	2.00E-02	45.000	0.00%	4.13%	1.08%	0.00%	0.00%	0.00%	0.00%	11.89%	0.00	1.23	0.32	0.00	0.00	0.00	0.00	3.55
Total State Potential Emissions												**0.000**	**1.23**	**0.32**	**0.00**	**0.00**	**0.00**	**0.00**	**3.55**

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Summary of Emissions (tpy)

	PM	PM10	SO2	NOx	VOC	CO	Benzene	Dichloroben zene	Formaldehy de	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Methanol	Nickel	Xylene
Furnaces	0.00	0.00	0.00	0.07	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
Surface coating\HAPS	6.18				22.83						0.32				0.00	3.55		1.23
Total	6.18	0.00	0.00	0.07	22.83	0.06	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	3.55	0.00	1.23

Max HAP	3.55
Sum HAPs	5.11